



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/007,587	12/05/2001	Jaxa von Schweinichen	HM-447	3535
7590	04/13/2004		EXAMINER	
Friedrich Kueffner Suite 910 317 Madison Avenue New York, NY 10017			HUG, ERIC J	
			ART UNIT	PAPER NUMBER
			1731	
DATE MAILED: 04/13/2004				

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>
	10/007,587	SCHWEINICHEN ET AL.
	<b>Examiner</b>	<b>Art Unit</b>
	Eric Hug	1731

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 30 January 2004.  
 2a) This action is **FINAL**.      2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-22 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) 22 is/are allowed.  
 6) Claim(s) 1-6,10-12,14,16 and 17 is/are rejected.  
 7) Claim(s) 7-9,13,15 and 18-21 is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on 05 December 2001 is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- 1) Notice of References Cited (PTO-892)  
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)  
 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
 Paper No(s)/Mail Date \_\_\_\_\_.  
 4) Interview Summary (PTO-413)  
 Paper No(s)/Mail Date. \_\_\_\_\_.  
 5) Notice of Informal Patent Application (PTO-152)  
 6) Other: \_\_\_\_\_.

**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

1. Claims 1, 3, 10, and 12 are rejected under 35 U.S.C. 102(b) as being anticipated by Reisch (US 3,753,276). Reisch discloses a calender roll comprising a cover and a mandrel, which is made by initially sizing the inside diameter of the roll cover smaller than the outside diameter of the mandrel. The cover is fit over the mandrel at an elevated temperature corresponding to an elevated operational temperature. The roll is then ready for use. The purpose of fitting the cover and mandrel in this manner is to prevent relative movement of the cover and mandrel at the elevated operational temperatures. See particularly column 4, first paragraph. Reisch recites raising the temperature from 75<sup>°</sup>F to 175<sup>°</sup>F (from about 25<sup>°</sup>C to 80<sup>°</sup>C).
  
2. Claims 1, 3-6, 10, and 12 are rejected under 35 U.S.C. 102(b) as being anticipated by Jaeger (US 4,160,048). Jaeger discloses a method of coating a Yankee dryer drum with a material that will withstand the operating temperatures of the Yankee dryer. The coating is performed while steam at a temperature of greater than 200<sup>°</sup>F (greater than about 95<sup>°</sup>C) is fed through the drum. See particularly column 8, lines 18-40 and column 12, lines 27-46. The coating material comprises tungsten carbide.

3. Claim 14 is rejected under 35 U.S.C. 102(b) as being anticipated by Vomhoff (US 4,607,420). Vomhoff discloses a heatable paper machine roll having means to correct roll imbalance at elevated operational temperatures. The heatable roll has a means for passing through a heating fluid. During manufacturing of the roll, balancing takes place while the heating fluid is passed through the roll.

4. Claims 1, 2, 10, and 11 are rejected under 35 U.S.C. 102(b) as being anticipated by Lundmark (US 5,371,975). Lundmark discloses a method for grinding a work piece during manufacture, namely grinding the surface of a roll, such as one found in a paper machine, whereby the method of grinding takes into account the surface temperature of the roll as it is being ground. The method continuously measures the actual size of the roll where a grinding wheel contacts the surface of the roll, and also measures the temperature of the roll surface. From the measured values and known properties of the roll material, the measured (actual) values of size and temperature are compared with desired values at another particular temperature. One suitable temperature may be the temperature at which the roll is intended to be used. See column 1, lines 19-65. Therefore, the reference teaches hot grinding of a roll at a temperature at which the roll is intended for use.

5. Claims 1, 3, 10, 12, 16, and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by Vahapesola (US 5,334,125). Vahapesola discloses a surface-hardened martensite roll for a paper machine. The roll is manufactured by a process including the steps of casting, machining,

surface-hardening by application of heat, tempering, and grinding. The tempering step includes cooling to a temperature according to the future operating temperature of the roll (see column 5, lines 1-55, for the processing steps). The process makes the roll less prone to brittleness and distortion at temperatures encountered on a paper machine. The roll is suitable for use at temperatures of 250 degrees C (column 6, line 49).

6. Claims 1, 3, 10, and 12 are rejected under 35 U.S.C. 102(b) as being anticipated by Theiss et al (US 3,944,444). Theiss discloses a method for heat treating cylindrical products such as rolls used in paper production. Heat treatment provides characteristics so that the rolls can be functional in their intended operating environments. The roll is first forged from steel. Following forging are steps including heat-treating and rough machining (grinding). After rough machining, a conditioning or intermediate heat treatment is then done to produce an outer surface with a desired micro-structure. See column 4, lines 2-27. Following this step, the roll may be quenched by water and tempered in a furnace (column 5, lines 19-25), and/or subject to a second rough machining (column 5, lines 25-28). A final hardening step (column 5, lines 31-35) takes place at a suitable temperature of about 400 degrees F (about 200 deg C).

***Response to Arguments***

Applicant's arguments, filed January 30, 2004, with respect to the rejections set forth in the Office action mailed October 28, 2003 have been fully considered and are persuasive. All rejections based on Justus (US 3,775,241), Vahapesola (US 5,334,125), and Theiss et al (US 3,944,444), which were applied previously, have been withdrawn as described below. However, upon further consideration, new grounds of rejection is made in view of the Vahapesola and Theiss references.

Applicant's arguments regarding Justus (US 3,775,241) are persuasive. Accordingly, the rejection of claims 1, 2, and 10-12 under 35 U.S.C. 102(b) as being anticipated by Justus et al has been withdrawn, and the rejection of claim 3 under 35 U.S.C. 103(a) as being unpatentable over Justus et al in view of Smook (Handbook for Pulp and Paper Technologists, 2<sup>nd</sup> Edition) has been withdrawn. The amended claims read over Justus, as Justus teaches roll grinding during operation, not prior to use of the roll.

Applicant's arguments regarding Vahapesola (US 5,334,125) are persuasive in so far that the Vahapesola does not disclose hot grinding or hot balancing. Accordingly, the rejection of claims 1-8, 10-12, 16-18, and 21 under 35 U.S.C. 102(b) as being anticipated by Vahapesola presented previously has been withdrawn. A new rejection of claims 1, 3, 10, 12, 16, and 17 in view of this reference has been presented above.

Applicant's arguments regarding Theiss et al (US 3,944,444) are persuasive in so far that Theiss does not disclose hot grinding, hot balancing, or cooling to approximate temperature conditions during operation. Accordingly, the rejection of claims 1-4, 10-13, and 16-18 under 35

U.S.C. 102(b) as being anticipated by Theiss et al presented previously has been withdrawn, and the rejection of claims 9, 14, and 15 under 35 U.S.C. 103(a) as being unpatentable over Theiss et al in view of Nikulainen et al (US 5,096,734) presented previously has been withdrawn. A new rejection of claims 1, 3, 10, and 12 in view of this reference has been presented above.

The following is in regards to Applicant's arguments based on Vahapesola and Theiss:

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (grinding) are not recited in rejected independent claims 1 and 10. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

The term "treated" has been interpreted as meaning any operation that provides a substantial change in condition or physical property of the roll. For example, the surface hardening step of Vahapesola and the intermediate heating step of Theiss have been interpreted at being treatment steps while hot, as they change the properties of the roll surface. If Applicant wishes to interpret the term "treated" as being ground (or equivalent), then it is recommended that the specific operation of grinding be incorporated into the claims to distinguish these operations over other known types of roll treatments.

The term "hot" has been interpreted as any condition of elevated temperature different from the cold state, not just a condition corresponding to a later operating temperature of the roll. If Applicant wishes to interpret the term "hot" as meaning a later operating temperature, then it is also recommended that Applicant makes this distinction.

***Allowable Subject Matter***

Claim 22 is allowed.

Claims 7-9, 13, 15, and 18-21 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

Regarding claims 7-9, 13, and 15, these claims comprise multiple hot treatment steps, which are not disclosed or suggested by the prior art.

Regarding claims 18-21, the prior art does not disclose or means for cooling the roll surface to approximate the temperature conditions of the roll during manufacture.

Regarding claim 22, the prior art does not teach or suggest cold grinding a roll with a negative profile of a hot profile that was determined while the roll was hot.

New grounds of rejection were presented in this Office action, not all of which were necessitated by Applicant's amendment. Accordingly, this action is non-final.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric Hug whose telephone number is 571 272-1192. The examiner can normally be reached on Monday through Friday, 10:00 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Griffin can be reached on 571 272-1189. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



jeh

A handwritten signature in black ink, appearing to read "Eric Hug". Below the signature, the initials "jeh" are written in a smaller, cursive font.